

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Buffalo

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Tel: (716)691-2600

TestAmerica Job ID: 480-28600-1

Client Project/Site: Olin Chemical Wilmington MA Superfund S

For:

Olin Corporation

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Charleston, Tennessee 37310-0248

Attn: Mr. James Cashwell



Authorized for release by:

11/28/2012 12:44:21 PM

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WASHTBURN
12/11/12

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Olin Corporation

Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28600-1

Qualifiers

Metals

| Qualifier | Qualifier Description |
|-----------|--|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

General Chemistry

| Qualifier | Qualifier Description |
|-----------|---|
| F | MS or MSD exceeds the control limits |
| 4 | MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable. |

Glossary

Abbreviation

These commonly used abbreviations may or may not be present in this report.

| | |
|----------------|--|
| ⊗ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CNF | Contains no Free Liquid |
| DER | Duplicate error ratio (normalized absolute difference) |
| DL, RA, RE, IN | Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision level concentration |
| EDL | Estimated Detection Limit |
| EPA | United States Environmental Protection Agency |
| MDA | Minimum detectable activity |
| MDC | Minimum detectable concentration |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| ND | Not detected at the reporting limit (or MDL or EDL if shown) |
| PQL | Practical Quantitation Limit |
| QC | Quality Control |
| RER | Relative error ratio |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |

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Case Narrative

Client: Olin Corporation
Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28600-1

Job ID: 480-28600-1

Laboratory: TestAmerica Buffalo

Narrative

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 11/15/2012; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.8 & 3.6C.

Note: All samples that require thermal preservation are considered acceptable if the arrival temperature is within the method's specified temperature range or for general analysis, ranging from 6°C to just above the freezing temperature of water. Samples that are hand delivered, immediately following collection, may not meet these criteria; however, they will be considered acceptable according to NELAC and State standards, if there is evidence that the chilling process has begun, such as stored and transported to the laboratory on ice.

TOTAL METALS (ICP)

Samples OC-GW-202S (480-28600-1), OC-GW-202D (480-28600-2), OC-GW-25 (480-28600-3), OC-GW-78S (480-28600-4), OC-GW-79S (480-28600-5), OC-PZ-16RR (480-28600-6), OC-PZ-17RR (480-28600-7), OC-PZ-18R (480-28600-8), OC-DUP-202D (480-28600-9), OC-PZ-24 (480-28600-10), OC-PZ-25 (480-28600-11), OC-GW-10S (480-28600-12), OC-GW-76S (480-28600-13) and OC-GW-24 (480-28600-14) were analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010. The samples were prepared on 11/17/2012 and analyzed on 11/20/2012.

At the request of the client, an abbreviated/modified MCP analyte list was reported for this job.

No difficulties were encountered during the metals (ICP) analyses.

All quality control parameters were within the acceptance limits.

SPECIFIC CONDUCTIVITY

Samples OC-GW-202S (480-28600-1), OC-GW-202D (480-28600-2), OC-GW-25 (480-28600-3), OC-GW-78S (480-28600-4), OC-GW-79S (480-28600-5), OC-PZ-16RR (480-28600-6), OC-PZ-17RR (480-28600-7), OC-PZ-18R (480-28600-8), OC-DUP-202D (480-28600-9), OC-PZ-24 (480-28600-10), OC-PZ-25 (480-28600-11), OC-GW-10S (480-28600-12), OC-GW-76S (480-28600-13) and OC-GW-24 (480-28600-14) were analyzed for specific conductivity in accordance with SM20 2510B. The samples were analyzed on 11/21/2012 and 11/26/2012.

No difficulties were encountered during the conductivity analyses.

All quality control parameters were within the acceptance limits.

ANIONS (28 DAY HOLD TIME)

Samples OC-GW-202S (480-28600-1), OC-GW-202D (480-28600-2), OC-GW-25 (480-28600-3), OC-GW-78S (480-28600-4), OC-GW-79S (480-28600-5), OC-PZ-16RR (480-28600-6), OC-PZ-17RR (480-28600-7), OC-PZ-18R (480-28600-8), OC-DUP-202D (480-28600-9), OC-PZ-24 (480-28600-10), OC-PZ-25 (480-28600-11), OC-GW-10S (480-28600-12), OC-GW-76S (480-28600-13) and OC-GW-24 (480-28600-14) were analyzed for anions (28 day hold time) in accordance with EPA Method 300.0. The samples were analyzed on 11/20/2012, 11/21/2012, 11/22/2012 and 11/23/2012.

Sulfate failed the recovery criteria high for the MSD of sample OC-PZ-25MSD (480-28600-11) in batch 480-92474. Refer to the QC report for details.

Samples OC-GW-202S (480-28600-1)[5X], OC-GW-202D (480-28600-2)[20X], OC-GW-25 (480-28600-3)[2X], OC-GW-78S (480-28600-4)

Case Narrative

Client: Olin Corporation

Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28600-1

Job ID: 480-28600-1 (Continued)

Laboratory: TestAmerica Buffalo (Continued)

[10X], OC-GW-79S (480-28600-5)[20X], OC-PZ-16RR (480-28600-6)[10X], OC-PZ-17RR (480-28600-7)[5X], OC-PZ-18R (480-28600-8)[2X], OC-DUP-202D (480-28600-9)[20X], OC-PZ-24 (480-28600-10)[10X] and OC-PZ-25 (480-28600-11)[10X] required dilution prior to analysis to bring the concentration of target analytes within the calibration range . The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the anions analyses.

All other quality control parameters were within the acceptance limits.

AMMONIA

Samples OC-GW-202S (480-28600-1), OC-GW-202D (480-28600-2), OC-GW-25 (480-28600-3), OC-GW-78S (480-28600-4), OC-GW-79S (480-28600-5), OC-PZ-16RR (480-28600-6), OC-PZ-17RR (480-28600-7), OC-PZ-18R (480-28600-8), OC-DUP-202D (480-28600-9), OC-PZ-24 (480-28600-10), OC-PZ-25 (480-28600-11), OC-GW-10S (480-28600-12), OC-GW-76S (480-28600-13) and OC-GW-24 (480-28600-14) were analyzed for ammonia in accordance with EPA Method 350.1. The samples were analyzed on 11/17/2012 and 11/20/2012.

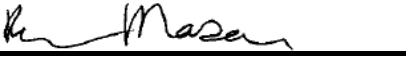
The presence of the '4' qualifier in the report indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Refer to the QC report for details.

Samples OC-GW-202S (480-28600-1)[40X], OC-GW-202D (480-28600-2)[100X], OC-GW-25 (480-28600-3)[20X], OC-GW-78S (480-28600-4)[50X], OC-GW-79S (480-28600-5)[100X], OC-PZ-16RR (480-28600-6)[100X], OC-PZ-17RR (480-28600-7)[40X], OC-PZ-18R (480-28600-8)[20X], OC-DUP-202D (480-28600-9)[100X], OC-PZ-24 (480-28600-10)[50X], OC-PZ-25 (480-28600-11)[20X], OC-GW-76S (480-28600-13)[20X] and OC-GW-24 (480-28600-14)[20X] required dilution prior to analysis to bring the concentration of target analytes within the calibration range. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the ammonia analyses.

All other quality control parameters were within the acceptance limits.

| MassDEP Analytical Protocol Certification Form | | | | | |
|--|---|--------------------------|------------------------------------|--------------------------------|--|
| Laboratory Name: | | TestAmerica Buffalo | | Project #: 480-28600-1 | |
| Project Location: | | Wilmington | | RTN: | |
| This form provides certifications for the following data set: list Laboratory Sample ID Number(s): 480-28600-1[1-14] | | | | | |
| Matrices: <input checked="" type="checkbox"/> Groundwater/Surface Water <input type="checkbox"/> Soil/Sediment <input type="checkbox"/> Drinking Water <input type="checkbox"/> Air <input type="checkbox"/> Other: | | | | | |
| CAM Protocols (check all that apply below): | | | | | |
| 8260 VOC CAM II A | 7470/7471 Hg CAM III B | Mass DEP VPH CAM IV A | 8081 Pesticides CAM V B | 7196 Hex Cr CAM VI B | Mass DEP APH CAM IX A |
| 8270 SVOC CAM II B | 7010 Metals CAM III C | Mass DEP EPH CAM IV B | 8151 Herbicides CAM V C | 8330 Explosives CAM VIII A | TO-15 VOC CAM IX B |
| 6010 Metals CAM III A | 6020 Metals CAM III D | 8082 PCB CAM V A | 9014 Total Cyanide/PAC CAM VI A | 6860 Perchlorate CAM VIII B | |
| Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status | | | | | |
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding time. | | | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | | | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | | | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? | | | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| E | a. VPH, EPH and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method? | | | | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | | | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Responses to Questions G, H and I below are required for "Presumptive Certainty" status | | | | | |
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | | | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹ |
| <i>Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WCS-07-350</i> | | | | | |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | | | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹ |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s) ? | | | | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ¹ |
| ¹ All negative responses must be addressed in an attached laboratory narrative. | | | | | |
| <i>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.</i> | | | | | |
| Signature:  | | Position: | | Project Manager | |
| Printed Name: Becky Mason | | Date: | | 11/28/12 12:42 | |
| This form has been electronically signed and approved | | | | | |

Detection Summary

Client: Olin Corporation

TestAmerica Job ID: 480-28600-1

Project/Site: Olin Chemical Wilmington MA Superfund S

Client Sample ID: OC-GW-202S

Lab Sample ID: 480-28600-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|----------------------|--------|-----------|--------|--------|----------|---------|---|----------|-----------|
| Chromium | 0.0037 | J | 0.0050 | 0.0010 | mg/L | 1 | | 6010 | Dissolved |
| Chloride | 83 | | 0.50 | 0.28 | mg/L | 1 | | 300.0 | Total/NA |
| Sulfate | 220 | | 10 | 1.7 | mg/L | 5 | | 300.0 | Total/NA |
| Ammonia | 40 | | 0.80 | 0.36 | mg/L | 40 | | 350.1 | Total/NA |
| Analyte | Result | Qualifier | RL | RL | Unit | Dil Fac | D | Method | Prep Type |
| Specific Conductance | 950 | | 1.0 | 1.0 | umhos/cm | 1 | | SM 2510B | Total/NA |

Client Sample ID: OC-GW-202D

Lab Sample ID: 480-28600-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|----------------------|--------|-----------|--------|--------|----------|---------|---|----------|-----------|
| Chromium | 0.36 | | 0.0050 | 0.0010 | mg/L | 1 | | 6010 | Dissolved |
| Aluminum | 3.2 | | 0.20 | 0.060 | mg/L | 1 | | 6010 | Dissolved |
| Chloride | 170 | | 10 | 5.6 | mg/L | 20 | | 300.0 | Total/NA |
| Sulfate | 860 | | 40 | 7.0 | mg/L | 20 | | 300.0 | Total/NA |
| Ammonia | 140 | | 2.0 | 0.90 | mg/L | 100 | | 350.1 | Total/NA |
| Analyte | Result | Qualifier | RL | RL | Unit | Dil Fac | D | Method | Prep Type |
| Specific Conductance | 2400 | | 1.0 | 1.0 | umhos/cm | 1 | | SM 2510B | Total/NA |

Client Sample ID: OC-GW-25

Lab Sample ID: 480-28600-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|----------------------|--------|-----------|--------|--------|----------|---------|---|----------|-----------|
| Chromium | 0.0022 | J | 0.0050 | 0.0010 | mg/L | 1 | | 6010 | Dissolved |
| Chloride | 140 | | 1.0 | 0.56 | mg/L | 2 | | 300.0 | Total/NA |
| Sulfate | 66 | | 2.0 | 0.35 | mg/L | 1 | | 300.0 | Total/NA |
| Ammonia | 35 | | 0.40 | 0.18 | mg/L | 20 | | 350.1 | Total/NA |
| Analyte | Result | Qualifier | RL | RL | Unit | Dil Fac | D | Method | Prep Type |
| Specific Conductance | 770 | | 1.0 | 1.0 | umhos/cm | 1 | | SM 2510B | Total/NA |

Client Sample ID: OC-GW-78S

Lab Sample ID: 480-28600-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|----------------------|--------|-----------|--------|--------|----------|---------|---|----------|-----------|
| Chromium | 0.0035 | J | 0.0050 | 0.0010 | mg/L | 1 | | 6010 | Dissolved |
| Chloride | 28 | | 0.50 | 0.28 | mg/L | 1 | | 300.0 | Total/NA |
| Sulfate | 540 | | 20 | 3.5 | mg/L | 10 | | 300.0 | Total/NA |
| Ammonia | 49 | | 1.0 | 0.45 | mg/L | 50 | | 350.1 | Total/NA |
| Analyte | Result | Qualifier | RL | RL | Unit | Dil Fac | D | Method | Prep Type |
| Specific Conductance | 1500 | | 1.0 | 1.0 | umhos/cm | 1 | | SM 2510B | Total/NA |

Client Sample ID: OC-GW-79S

Lab Sample ID: 480-28600-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|----------------------|--------|-----------|--------|--------|----------|---------|---|----------|-----------|
| Chromium | 0.014 | | 0.0050 | 0.0010 | mg/L | 1 | | 6010 | Dissolved |
| Chloride | 180 | | 10 | 5.6 | mg/L | 20 | | 300.0 | Total/NA |
| Sulfate | 860 | | 40 | 7.0 | mg/L | 20 | | 300.0 | Total/NA |
| Ammonia | 120 | | 2.0 | 0.90 | mg/L | 100 | | 350.1 | Total/NA |
| Analyte | Result | Qualifier | RL | RL | Unit | Dil Fac | D | Method | Prep Type |
| Specific Conductance | 2500 | | 1.0 | 1.0 | umhos/cm | 1 | | SM 2510B | Total/NA |

Client Sample ID: OC-PZ-16RR

Lab Sample ID: 480-28600-6

TestAmerica Buffalo

Detection Summary

Client: Olin Corporation

TestAmerica Job ID: 480-28600-1

Project/Site: Olin Chemical Wilmington MA Superfund S

Client Sample ID: OC-PZ-16RR (Continued)

Lab Sample ID: 480-28600-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|----------------------|--------|-----------|--------|--------|----------|---------|---|----------|-----------|
| Chromium | 0.0029 | J | 0.0050 | 0.0010 | mg/L | 1 | | 6010 | Dissolved |
| Chloride | 190 | | 5.0 | 2.8 | mg/L | 10 | | 300.0 | Total/NA |
| Sulfate | 670 | | 20 | 3.5 | mg/L | 10 | | 300.0 | Total/NA |
| Ammonia | 110 | | 2.0 | 0.90 | mg/L | 100 | | 350.1 | Total/NA |
| Analyte | Result | Qualifier | RL | RL | Unit | Dil Fac | D | Method | Prep Type |
| Specific Conductance | 2400 | | 1.0 | 1.0 | umhos/cm | 1 | | SM 2510B | Total/NA |

Client Sample ID: OC-PZ-17RR

Lab Sample ID: 480-28600-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|----------------------|--------|-----------|--------|--------|----------|---------|---|----------|-----------|
| Chromium | 0.098 | | 0.0050 | 0.0010 | mg/L | 1 | | 6010 | Dissolved |
| Aluminum | 0.19 | J | 0.20 | 0.060 | mg/L | 1 | | 6010 | Dissolved |
| Chloride | 92 | | 0.50 | 0.28 | mg/L | 1 | | 300.0 | Total/NA |
| Sulfate | 420 | | 10 | 1.7 | mg/L | 5 | | 300.0 | Total/NA |
| Ammonia | 43 | | 0.80 | 0.36 | mg/L | 40 | | 350.1 | Total/NA |
| Analyte | Result | Qualifier | RL | RL | Unit | Dil Fac | D | Method | Prep Type |
| Specific Conductance | 1400 | | 1.0 | 1.0 | umhos/cm | 1 | | SM 2510B | Total/NA |

Client Sample ID: OC-PZ-18R

Lab Sample ID: 480-28600-8

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|----------------------|--------|-----------|--------|--------|----------|---------|---|----------|-----------|
| Chromium | 0.0094 | | 0.0050 | 0.0010 | mg/L | 1 | | 6010 | Dissolved |
| Chloride | 110 | | 1.0 | 0.56 | mg/L | 2 | | 300.0 | Total/NA |
| Sulfate | 29 | | 2.0 | 0.35 | mg/L | 1 | | 300.0 | Total/NA |
| Ammonia | 21 | | 0.40 | 0.18 | mg/L | 20 | | 350.1 | Total/NA |
| Analyte | Result | Qualifier | RL | RL | Unit | Dil Fac | D | Method | Prep Type |
| Specific Conductance | 620 | | 1.0 | 1.0 | umhos/cm | 1 | | SM 2510B | Total/NA |

Client Sample ID: OC-DUP-202D

Lab Sample ID: 480-28600-9

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|----------------------|--------|-----------|--------|--------|----------|---------|---|----------|-----------|
| Chromium | 0.36 | | 0.0050 | 0.0010 | mg/L | 1 | | 6010 | Dissolved |
| Aluminum | 3.2 | | 0.20 | 0.060 | mg/L | 1 | | 6010 | Dissolved |
| Chloride | 180 | | 10 | 5.6 | mg/L | 20 | | 300.0 | Total/NA |
| Sulfate | 880 | | 40 | 7.0 | mg/L | 20 | | 300.0 | Total/NA |
| Ammonia | 120 | | 2.0 | 0.90 | mg/L | 100 | | 350.1 | Total/NA |
| Analyte | Result | Qualifier | RL | RL | Unit | Dil Fac | D | Method | Prep Type |
| Specific Conductance | 2400 | | 1.0 | 1.0 | umhos/cm | 1 | | SM 2510B | Total/NA |

Client Sample ID: OC-PZ-24

Lab Sample ID: 480-28600-10

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|----------------------|--------|-----------|--------|--------|----------|---------|---|----------|-----------|
| Chromium | 0.021 | | 0.0050 | 0.0010 | mg/L | 1 | | 6010 | Dissolved |
| Chloride | 18 | | 0.50 | 0.28 | mg/L | 1 | | 300.0 | Total/NA |
| Sulfate | 680 | | 20 | 3.5 | mg/L | 10 | | 300.0 | Total/NA |
| Ammonia | 47 | | 1.0 | 0.45 | mg/L | 50 | | 350.1 | Total/NA |
| Analyte | Result | Qualifier | RL | RL | Unit | Dil Fac | D | Method | Prep Type |
| Specific Conductance | 1800 | | 1.0 | 1.0 | umhos/cm | 1 | | SM 2510B | Total/NA |

Client Sample ID: OC-PZ-25

Lab Sample ID: 480-28600-11

TestAmerica Buffalo

Detection Summary

Client: Olin Corporation

Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28600-1

Client Sample ID: OC-PZ-25 (Continued)

Lab Sample ID: 480-28600-11

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|----------------------|--------|-----------|--------|--------|----------|---------|---|----------|-----------|
| Chromium | 0.0091 | | 0.0050 | 0.0010 | mg/L | 1 | | 6010 | Dissolved |
| Chloride | 19 | | 0.50 | 0.28 | mg/L | 1 | | 300.0 | Total/NA |
| Sulfate | 460 | | 20 | 3.5 | mg/L | 10 | | 300.0 | Total/NA |
| Ammonia | 38 | | 0.40 | 0.18 | mg/L | 20 | | 350.1 | Total/NA |
| Analyte | Result | Qualifier | RL | RL | Unit | Dil Fac | D | Method | Prep Type |
| Specific Conductance | 1300 | | 1.0 | 1.0 | umhos/cm | 1 | | SM 2510B | Total/NA |

Client Sample ID: OC-GW-10S

Lab Sample ID: 480-28600-12

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|----------------------|--------|-----------|--------|--------|----------|---------|---|----------|-----------|
| Chromium | 0.0020 | J | 0.0050 | 0.0010 | mg/L | 1 | | 6010 | Dissolved |
| Aluminum | 5.1 | | 0.20 | 0.060 | mg/L | 1 | | 6010 | Dissolved |
| Chloride | 29 | | 0.50 | 0.28 | mg/L | 1 | | 300.0 | Total/NA |
| Sulfate | 87 | | 2.0 | 0.35 | mg/L | 1 | | 300.0 | Total/NA |
| Ammonia | 1.5 | | 0.020 | 0.0090 | mg/L | 1 | | 350.1 | Total/NA |
| Analyte | Result | Qualifier | RL | RL | Unit | Dil Fac | D | Method | Prep Type |
| Specific Conductance | 320 | | 1.0 | 1.0 | umhos/cm | 1 | | SM 2510B | Total/NA |

Client Sample ID: OC-GW-76S

Lab Sample ID: 480-28600-13

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|----------------------|--------|-----------|--------|--------|----------|---------|---|----------|-----------|
| Chromium | 0.0016 | J | 0.0050 | 0.0010 | mg/L | 1 | | 6010 | Dissolved |
| Chloride | 49 | | 0.50 | 0.28 | mg/L | 1 | | 300.0 | Total/NA |
| Sulfate | 22 | | 2.0 | 0.35 | mg/L | 1 | | 300.0 | Total/NA |
| Ammonia | 9.4 | | 0.40 | 0.18 | mg/L | 20 | | 350.1 | Total/NA |
| Analyte | Result | Qualifier | RL | RL | Unit | Dil Fac | D | Method | Prep Type |
| Specific Conductance | 260 | | 1.0 | 1.0 | umhos/cm | 1 | | SM 2510B | Total/NA |

Client Sample ID: OC-GW-24

Lab Sample ID: 480-28600-14

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|----------------------|--------|-----------|------|------|----------|---------|---|----------|-----------|
| Chloride | 30 | | 0.50 | 0.28 | mg/L | 1 | | 300.0 | Total/NA |
| Sulfate | 43 | | 2.0 | 0.35 | mg/L | 1 | | 300.0 | Total/NA |
| Ammonia | 26 | | 0.40 | 0.18 | mg/L | 20 | | 350.1 | Total/NA |
| Analyte | Result | Qualifier | RL | RL | Unit | Dil Fac | D | Method | Prep Type |
| Specific Conductance | 400 | | 1.0 | 1.0 | umhos/cm | 1 | | SM 2510B | Total/NA |

Client Sample Results

Client: Olin Corporation

TestAmerica Job ID: 480-28600-1

Project/Site: Olin Chemical Wilmington MA Superfund S

Client Sample ID: OC-GW-202S

Lab Sample ID: 480-28600-1

Matrix: Water

Date Collected: 11/13/12 11:10

Date Received: 11/15/12 07:30

Method: 6010 - Metals (ICP) - Dissolved

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| Chromium | 0.0037 | J | 0.0050 | 0.0010 | mg/L | | 11/17/12 09:00 | 11/20/12 19:23 | 1 |
| Aluminum | ND | | 0.20 | 0.060 | mg/L | | 11/17/12 09:00 | 11/20/12 19:23 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|------|------|----------|---|----------|----------------|---------|
| Chloride | 83 | | 0.50 | 0.28 | mg/L | | | 11/20/12 07:30 | 1 |
| Sulfate | 220 | | 10 | 1.7 | mg/L | | | 11/22/12 07:44 | 5 |
| Ammonia | 40 | | 0.80 | 0.36 | mg/L | | | 11/20/12 14:57 | 40 |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Specific Conductance | 950 | | 1.0 | 1.0 | umhos/cm | | | 11/21/12 16:00 | 1 |

Client Sample ID: OC-GW-202D

Lab Sample ID: 480-28600-2

Matrix: Water

Date Collected: 11/13/12 12:00

Date Received: 11/15/12 07:30

Method: 6010 - Metals (ICP) - Dissolved

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| Chromium | 0.36 | | 0.0050 | 0.0010 | mg/L | | 11/17/12 09:00 | 11/20/12 19:29 | 1 |
| Aluminum | 3.2 | | 0.20 | 0.060 | mg/L | | 11/17/12 09:00 | 11/20/12 19:29 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|-----|------|----------|---|----------|----------------|---------|
| Chloride | 170 | | 10 | 5.6 | mg/L | | | 11/21/12 14:41 | 20 |
| Sulfate | 860 | | 40 | 7.0 | mg/L | | | 11/21/12 14:41 | 20 |
| Ammonia | 140 | | 2.0 | 0.90 | mg/L | | | 11/20/12 14:58 | 100 |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Specific Conductance | 2400 | | 1.0 | 1.0 | umhos/cm | | | 11/21/12 16:00 | 1 |

Client Sample ID: OC-GW-25

Lab Sample ID: 480-28600-3

Matrix: Water

Date Collected: 11/14/12 14:25

Date Received: 11/15/12 07:30

Method: 6010 - Metals (ICP) - Dissolved

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| Chromium | 0.0022 | J | 0.0050 | 0.0010 | mg/L | | 11/17/12 09:00 | 11/20/12 19:40 | 1 |
| Aluminum | ND | | 0.20 | 0.060 | mg/L | | 11/17/12 09:00 | 11/20/12 19:40 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|------|------|----------|---|----------|----------------|---------|
| Chloride | 140 | | 1.0 | 0.56 | mg/L | | | 11/22/12 07:54 | 2 |
| Sulfate | 66 | | 2.0 | 0.35 | mg/L | | | 11/20/12 08:11 | 1 |
| Ammonia | 35 | | 0.40 | 0.18 | mg/L | | | 11/20/12 13:13 | 20 |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Specific Conductance | 770 | | 1.0 | 1.0 | umhos/cm | | | 11/21/12 16:00 | 1 |

TestAmerica Buffalo

Client Sample Results

Client: Olin Corporation

Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28600-1

Client Sample ID: OC-GW-78S

Lab Sample ID: 480-28600-4

Matrix: Water

Date Collected: 11/13/12 15:00

Date Received: 11/15/12 07:30

Method: 6010 - Metals (ICP) - Dissolved

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| Chromium | 0.0035 | J | 0.0050 | 0.0010 | mg/L | | 11/17/12 09:00 | 11/20/12 19:42 | 1 |
| Aluminum | ND | | 0.20 | 0.060 | mg/L | | 11/17/12 09:00 | 11/20/12 19:42 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|------|------|----------|---|----------|----------------|---------|
| Chloride | 28 | | 0.50 | 0.28 | mg/L | | | 11/20/12 08:21 | 1 |
| Sulfate | 540 | | 20 | 3.5 | mg/L | | | 11/22/12 09:05 | 10 |
| Ammonia | 49 | | 1.0 | 0.45 | mg/L | | | 11/20/12 15:01 | 50 |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Specific Conductance | 1500 | | 1.0 | 1.0 | umhos/cm | | | 11/21/12 16:00 | 1 |

Client Sample ID: OC-GW-79S

Lab Sample ID: 480-28600-5

Matrix: Water

Date Collected: 11/14/12 08:40

Date Received: 11/15/12 07:30

Method: 6010 - Metals (ICP) - Dissolved

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| Chromium | 0.014 | | 0.0050 | 0.0010 | mg/L | | 11/17/12 09:00 | 11/20/12 19:44 | 1 |
| Aluminum | ND | | 0.20 | 0.060 | mg/L | | 11/17/12 09:00 | 11/20/12 19:44 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|-----|------|----------|---|----------|----------------|---------|
| Chloride | 180 | | 10 | 5.6 | mg/L | | | 11/21/12 15:11 | 20 |
| Sulfate | 860 | | 40 | 7.0 | mg/L | | | 11/21/12 15:11 | 20 |
| Ammonia | 120 | | 2.0 | 0.90 | mg/L | | | 11/20/12 15:02 | 100 |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Specific Conductance | 2500 | | 1.0 | 1.0 | umhos/cm | | | 11/21/12 16:00 | 1 |

Client Sample ID: OC-PZ-16RR

Lab Sample ID: 480-28600-6

Matrix: Water

Date Collected: 11/14/12 09:05

Date Received: 11/15/12 07:30

Method: 6010 - Metals (ICP) - Dissolved

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| Chromium | 0.0029 | J | 0.0050 | 0.0010 | mg/L | | 11/17/12 09:00 | 11/20/12 19:46 | 1 |
| Aluminum | ND | | 0.20 | 0.060 | mg/L | | 11/17/12 09:00 | 11/20/12 19:46 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|-----|------|----------|---|----------|----------------|---------|
| Chloride | 190 | | 5.0 | 2.8 | mg/L | | | 11/21/12 15:22 | 10 |
| Sulfate | 670 | | 20 | 3.5 | mg/L | | | 11/21/12 15:22 | 10 |
| Ammonia | 110 | | 2.0 | 0.90 | mg/L | | | 11/20/12 15:07 | 100 |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Specific Conductance | 2400 | | 1.0 | 1.0 | umhos/cm | | | 11/21/12 16:00 | 1 |

TestAmerica Buffalo

Client Sample Results

Client: Olin Corporation

Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28600-1

Client Sample ID: OC-PZ-17RR

Lab Sample ID: 480-28600-7

Date Collected: 11/14/12 10:10

Matrix: Water

Date Received: 11/15/12 07:30

Method: 6010 - Metals (ICP) - Dissolved

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| Chromium | 0.098 | | 0.0050 | 0.0010 | mg/L | | 11/17/12 09:00 | 11/20/12 19:48 | 1 |
| Aluminum | 0.19 | J | 0.20 | 0.060 | mg/L | | 11/17/12 09:00 | 11/20/12 19:48 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|------|------|----------|---|----------|----------------|---------|
| Chloride | 92 | | 0.50 | 0.28 | mg/L | | | 11/20/12 08:51 | 1 |
| Sulfate | 420 | | 10 | 1.7 | mg/L | | | 11/22/12 09:15 | 5 |
| Ammonia | 43 | | 0.80 | 0.36 | mg/L | | | 11/20/12 15:08 | 40 |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Specific Conductance | 1400 | | 1.0 | 1.0 | umhos/cm | | | 11/21/12 16:00 | 1 |

Client Sample ID: OC-PZ-18R

Lab Sample ID: 480-28600-8

Date Collected: 11/14/12 11:20

Matrix: Water

Date Received: 11/15/12 07:30

Method: 6010 - Metals (ICP) - Dissolved

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| Chromium | 0.0094 | | 0.0050 | 0.0010 | mg/L | | 11/17/12 09:00 | 11/20/12 19:55 | 1 |
| Aluminum | ND | | 0.20 | 0.060 | mg/L | | 11/17/12 09:00 | 11/20/12 19:55 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|------|------|----------|---|----------|----------------|---------|
| Chloride | 110 | | 1.0 | 0.56 | mg/L | | | 11/22/12 09:25 | 2 |
| Sulfate | 29 | | 2.0 | 0.35 | mg/L | | | 11/20/12 09:01 | 1 |
| Ammonia | 21 | | 0.40 | 0.18 | mg/L | | | 11/20/12 13:20 | 20 |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Specific Conductance | 620 | | 1.0 | 1.0 | umhos/cm | | | 11/21/12 16:00 | 1 |

Client Sample ID: OC-DUP-202D

Lab Sample ID: 480-28600-9

Date Collected: 11/13/12 12:00

Matrix: Water

Date Received: 11/15/12 07:30

Method: 6010 - Metals (ICP) - Dissolved

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| Chromium | 0.36 | | 0.0050 | 0.0010 | mg/L | | 11/17/12 09:00 | 11/20/12 19:57 | 1 |
| Aluminum | 3.2 | | 0.20 | 0.060 | mg/L | | 11/17/12 09:00 | 11/20/12 19:57 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|-----|------|----------|---|----------|----------------|---------|
| Chloride | 180 | | 10 | 5.6 | mg/L | | | 11/23/12 16:42 | 20 |
| Sulfate | 880 | | 40 | 7.0 | mg/L | | | 11/23/12 16:42 | 20 |
| Ammonia | 120 | | 2.0 | 0.90 | mg/L | | | 11/20/12 15:09 | 100 |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Specific Conductance | 2400 | | 1.0 | 1.0 | umhos/cm | | | 11/21/12 16:00 | 1 |

TestAmerica Buffalo

Client Sample Results

Client: Olin Corporation

TestAmerica Job ID: 480-28600-1

Project/Site: Olin Chemical Wilmington MA Superfund S

Client Sample ID: OC-PZ-24

Lab Sample ID: 480-28600-10

Matrix: Water

Date Collected: 11/13/12 13:55

Date Received: 11/15/12 07:30

Method: 6010 - Metals (ICP) - Dissolved

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| Chromium | 0.021 | | 0.0050 | 0.0010 | mg/L | | 11/17/12 09:00 | 11/20/12 19:59 | 1 |
| Aluminum | ND | | 0.20 | 0.060 | mg/L | | 11/17/12 09:00 | 11/20/12 19:59 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|------|------|----------|---|----------|----------------|---------|
| Chloride | 18 | | 0.50 | 0.28 | mg/L | | | 11/20/12 10:02 | 1 |
| Sulfate | 680 | | 20 | 3.5 | mg/L | | | 11/23/12 19:24 | 10 |
| Ammonia | 47 | | 1.0 | 0.45 | mg/L | | | 11/20/12 15:10 | 50 |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Specific Conductance | 1800 | | 1.0 | 1.0 | umhos/cm | | | 11/21/12 16:00 | 1 |

Client Sample ID: OC-PZ-25

Lab Sample ID: 480-28600-11

Matrix: Water

Date Collected: 11/13/12 13:05

Date Received: 11/15/12 07:30

Method: 6010 - Metals (ICP) - Dissolved

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| Chromium | 0.0091 | | 0.0050 | 0.0010 | mg/L | | 11/17/12 09:00 | 11/20/12 20:01 | 1 |
| Aluminum | ND | | 0.20 | 0.060 | mg/L | | 11/17/12 09:00 | 11/20/12 20:01 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|------|------|----------|---|----------|----------------|---------|
| Chloride | 19 | | 0.50 | 0.28 | mg/L | | | 11/20/12 10:12 | 1 |
| Sulfate | 460 | | 20 | 3.5 | mg/L | | | 11/23/12 19:34 | 10 |
| Ammonia | 38 | | 0.40 | 0.18 | mg/L | | | 11/20/12 13:23 | 20 |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Specific Conductance | 1300 | | 1.0 | 1.0 | umhos/cm | | | 11/21/12 16:00 | 1 |

Client Sample ID: OC-GW-10S

Lab Sample ID: 480-28600-12

Matrix: Water

Date Collected: 11/14/12 12:05

Date Received: 11/15/12 07:30

Method: 6010 - Metals (ICP) - Dissolved

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| Chromium | 0.0020 | J | 0.0050 | 0.0010 | mg/L | | 11/17/12 09:00 | 11/20/12 20:03 | 1 |
| Aluminum | 5.1 | | 0.20 | 0.060 | mg/L | | 11/17/12 09:00 | 11/20/12 20:03 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|-------|--------|----------|---|----------|----------------|---------|
| Chloride | 29 | | 0.50 | 0.28 | mg/L | | | 11/20/12 10:22 | 1 |
| Sulfate | 87 | | 2.0 | 0.35 | mg/L | | | 11/20/12 10:22 | 1 |
| Ammonia | 1.5 | | 0.020 | 0.0090 | mg/L | | | 11/17/12 15:41 | 1 |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Specific Conductance | 320 | | 1.0 | 1.0 | umhos/cm | | | 11/26/12 03:43 | 1 |

TestAmerica Buffalo

Client Sample Results

Client: Olin Corporation

TestAmerica Job ID: 480-28600-1

Project/Site: Olin Chemical Wilmington MA Superfund S

Client Sample ID: OC-GW-76S

Lab Sample ID: 480-28600-13

Matrix: Water

Date Collected: 11/14/12 13:00

Date Received: 11/15/12 07:30

Method: 6010 - Metals (ICP) - Dissolved

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| Chromium | 0.0016 | J | 0.0050 | 0.0010 | mg/L | | 11/17/12 09:00 | 11/20/12 20:05 | 1 |
| Aluminum | ND | | 0.20 | 0.060 | mg/L | | 11/17/12 09:00 | 11/20/12 20:05 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|------|------|----------|---|----------|----------------|---------|
| Chloride | 49 | | 0.50 | 0.28 | mg/L | | | 11/20/12 10:32 | 1 |
| Sulfate | 22 | | 2.0 | 0.35 | mg/L | | | 11/20/12 10:32 | 1 |
| Ammonia | 9.4 | | 0.40 | 0.18 | mg/L | | | 11/20/12 13:24 | 20 |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Specific Conductance | 260 | | 1.0 | 1.0 | umhos/cm | | | 11/26/12 03:43 | 1 |

Client Sample ID: OC-GW-24

Lab Sample ID: 480-28600-14

Matrix: Water

Date Collected: 11/14/12 13:40

Date Received: 11/15/12 07:30

Method: 6010 - Metals (ICP) - Dissolved

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| Chromium | ND | | 0.0050 | 0.0010 | mg/L | | 11/17/12 09:00 | 11/20/12 20:08 | 1 |
| Aluminum | ND | | 0.20 | 0.060 | mg/L | | 11/17/12 09:00 | 11/20/12 20:08 | 1 |

General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|------|------|----------|---|----------|----------------|---------|
| Chloride | 30 | | 0.50 | 0.28 | mg/L | | | 11/20/12 10:42 | 1 |
| Sulfate | 43 | | 2.0 | 0.35 | mg/L | | | 11/20/12 10:42 | 1 |
| Ammonia | 26 | | 0.40 | 0.18 | mg/L | | | 11/20/12 13:25 | 20 |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Specific Conductance | 400 | | 1.0 | 1.0 | umhos/cm | | | 11/26/12 03:43 | 1 |

QC Sample Results

Client: Olin Corporation

TestAmerica Job ID: 480-28600-1

Project/Site: Olin Chemical Wilmington MA Superfund S

Method: 6010 - Metals (ICP)

Lab Sample ID: MB 480-91347/3-B

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Dissolved

Analysis Batch: 92166

Prep Batch: 91349

| Analyte | MB | MB | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|--------|--------|------|---|----------------|----------------|---------|
| | Result | Qualifier | | | | | | | |
| Chromium | ND | | 0.0050 | 0.0010 | mg/L | | 11/17/12 09:00 | 11/20/12 19:16 | 1 |
| Aluminum | ND | | 0.20 | 0.060 | mg/L | | 11/17/12 09:00 | 11/20/12 19:16 | 1 |

Lab Sample ID: LCS 480-91347/4-B

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Dissolved

Analysis Batch: 92166

Prep Batch: 91349

| Analyte | Spike | LCS | LCS | Unit | D | %Rec | Limits | RPD |
|----------|-------|--------|-----------|------|---|------|----------|-----|
| | Added | Result | Qualifier | | | | | |
| Chromium | 0.200 | 0.210 | | mg/L | | 105 | 80 - 120 | |
| Aluminum | 10.0 | 10.5 | | mg/L | | 105 | 80 - 120 | |

Lab Sample ID: LCSD 480-91347/31-B

Client Sample ID: Lab Control Sample Dup

Matrix: Water

Prep Type: Dissolved

Analysis Batch: 92166

Prep Batch: 91349

| Analyte | Spike | LCSD | LCSD | Unit | D | %Rec | Limits | RPD |
|----------|-------|--------|-----------|------|---|------|----------|-----|
| | Added | Result | Qualifier | | | | | |
| Chromium | 0.200 | 0.202 | | mg/L | | 101 | 80 - 120 | 4 |
| Aluminum | 10.0 | 10.1 | | mg/L | | 101 | 80 - 120 | 3 |

Lab Sample ID: 480-28600-2 MS

Client Sample ID: OC-GW-202D

Matrix: Water

Prep Type: Dissolved

Analysis Batch: 92166

Prep Batch: 91349

| Analyte | Sample | Sample | Spike | MS | MS | Unit | D | %Rec | Limits | RPD |
|----------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|
| | Result | Qualifier | Added | Result | Qualifier | | | | | |
| Chromium | 0.36 | | 0.200 | 0.568 | | mg/L | | 102 | 75 - 125 | |
| Aluminum | 3.2 | | 10.0 | 13.5 | | mg/L | | 103 | 75 - 125 | |

Lab Sample ID: 480-28600-2 MSD

Client Sample ID: OC-GW-202D

Matrix: Water

Prep Type: Dissolved

Analysis Batch: 92166

Prep Batch: 91349

| Analyte | Sample | Sample | Spike | MSD | MSD | Unit | D | %Rec | Limits | RPD |
|----------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|
| | Result | Qualifier | Added | Result | Qualifier | | | | | |
| Chromium | 0.36 | | 0.200 | 0.569 | | mg/L | | 103 | 75 - 125 | 0 |
| Aluminum | 3.2 | | 10.0 | 13.4 | | mg/L | | 102 | 75 - 125 | 0 |

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-91402/100

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 91402

| Analyte | MB | MB | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|------|------|------|---|----------|----------------|---------|
| | Result | Qualifier | | | | | | | |
| Chloride | ND | | 0.50 | 0.28 | mg/L | | | 11/20/12 05:39 | 1 |
| Sulfate | ND | | 2.0 | 0.35 | mg/L | | | 11/20/12 05:39 | 1 |

TestAmerica Buffalo

QC Sample Results

Client: Olin Corporation

TestAmerica Job ID: 480-28600-1

Project/Site: Olin Chemical Wilmington MA Superfund S

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 480-91402/99

Matrix: Water

Analysis Batch: 91402

| Analyte | Spike Added | LCS | | Unit | D | %Rec. | |
|----------|----------------|--------|-----------|------|---|-------|----------|
| | | Result | Qualifier | | | %Rec. | Limits |
| Chloride | 20.0 | 19.9 | | mg/L | | 99 | 90 - 110 |
| Sulfate | 20.0 | 20.5 | | mg/L | | 102 | 90 - 110 |

Lab Sample ID: MB 480-91405/124

Matrix: Water

Analysis Batch: 91405

| Analyte | MB Result | MB | | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------------|--------|-----------|------|------|------|---|----------|----------------|---------|
| | | Result | Qualifier | | | | | | | |
| Chloride | ND | | | 0.50 | 0.28 | mg/L | | | 11/20/12 09:42 | 1 |
| Sulfate | ND | | | 2.0 | 0.35 | mg/L | | | 11/20/12 09:42 | 1 |

Lab Sample ID: LCS 480-91405/123

Matrix: Water

Analysis Batch: 91405

| Analyte | Spike Added | LCS | | Unit | D | %Rec. | |
|----------|----------------|--------|-----------|------|---|-------|----------|
| | | Result | Qualifier | | | %Rec. | Limits |
| Chloride | 20.0 | 19.7 | | mg/L | | 98 | 90 - 110 |
| Sulfate | 20.0 | 20.4 | | mg/L | | 102 | 90 - 110 |

Lab Sample ID: MB 480-91987/4

Matrix: Water

Analysis Batch: 91987

| Analyte | MB Result | MB | | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------------|--------|-----------|------|------|------|---|----------|----------------|---------|
| | | Result | Qualifier | | | | | | | |
| Chloride | ND | | | 0.50 | 0.28 | mg/L | | | 11/21/12 12:40 | 1 |
| Sulfate | ND | | | 2.0 | 0.35 | mg/L | | | 11/21/12 12:40 | 1 |

Lab Sample ID: LCS 480-91987/3

Matrix: Water

Analysis Batch: 91987

| Analyte | Spike Added | LCS | | Unit | D | %Rec. | |
|----------|----------------|--------|-----------|------|---|-------|----------|
| | | Result | Qualifier | | | %Rec. | Limits |
| Chloride | 20.0 | 20.7 | | mg/L | | 104 | 90 - 110 |
| Sulfate | 20.0 | 21.3 | | mg/L | | 106 | 90 - 110 |

Lab Sample ID: 480-28600-2 MS

Matrix: Water

Analysis Batch: 91987

| Analyte | Sample Result | Sample | | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec. | |
|----------|------------------|--------|-----------|----------------|--------------|-----------------|------|---|-------|----------|
| | | Result | Qualifier | | | | | | %Rec. | Limits |
| Chloride | 170 | | | 500 | 711 | | mg/L | | 108 | 90 - 110 |
| Sulfate | 860 | | | 500 | 1380 | | mg/L | | 105 | 90 - 110 |

Lab Sample ID: 480-28600-2 MSD

Matrix: Water

Analysis Batch: 91987

| Analyte | Sample Result | Sample | | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec. | |
|----------|------------------|--------|-----------|----------------|---------------|------------------|------|---|-------|----------|
| | | Result | Qualifier | | | | | | %Rec. | Limits |
| Chloride | 170 | | | 500 | 714 | | mg/L | | 108 | 90 - 110 |

Client Sample ID: OC-GW-202D

Prep Type: Total/NA

QC Sample Results

Client: Olin Corporation

TestAmerica Job ID: 480-28600-1

Project/Site: Olin Chemical Wilmington MA Superfund S

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 480-28600-2 MSD

Client Sample ID: OC-GW-202D
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 91987

| Analyte | Sample | Sample | Spike | MSD | MSD | Unit | D | %Rec | %Rec. | RPD | RPD |
|---------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-----|
| | Result | Qualifier | Added | Result | Qualifier | | | | | | |
| Sulfate | 860 | | 500 | 1390 | | mg/L | | 106 | 90 - 110 | 0 | 20 |

Lab Sample ID: MB 480-92053/100

Client Sample ID: Method Blank
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 92053

| Analyte | MB | MB | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|------|------|------|---|----------|----------------|---------|
| | Result | Qualifier | | | | | | | |
| Chloride | ND | | 0.50 | 0.28 | mg/L | | | 11/22/12 04:52 | 1 |
| Sulfate | ND | | 2.0 | 0.35 | mg/L | | | 11/22/12 04:52 | 1 |

Lab Sample ID: LCS 480-92053/99

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 92053

| Analyte | MB | MB | Spike | LCS | LCS | Unit | D | %Rec | %Rec. |
|----------|--------|-----------|-------|--------|-----------|------|---|------|----------|
| | Result | Qualifier | Added | Result | Qualifier | | | | |
| Chloride | ND | | 20.0 | 20.8 | | mg/L | | 104 | 90 - 110 |
| Sulfate | ND | | 20.0 | 21.8 | | mg/L | | 109 | 90 - 110 |

Lab Sample ID: 480-28600-3 MS

Client Sample ID: OC-GW-25
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 92053

| Analyte | Sample | Sample | Spike | MS | MS | Unit | D | %Rec | %Rec. |
|----------|--------|-----------|-------|--------|-----------|------|---|------|----------|
| | Result | Qualifier | Added | Result | Qualifier | | | | |
| Chloride | 140 | | 50.0 | 186 | | mg/L | | 103 | 90 - 110 |

Lab Sample ID: 480-28600-3 MSD

Client Sample ID: OC-GW-25
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 92053

| Analyte | Sample | Sample | Spike | MSD | MSD | Unit | D | %Rec | %Rec. |
|----------|--------|-----------|-------|--------|-----------|------|---|------|----------|
| | Result | Qualifier | Added | Result | Qualifier | | | | |
| Chloride | 140 | | 50.0 | 184 | | mg/L | | 98 | 90 - 110 |

Lab Sample ID: MB 480-92055/124

Client Sample ID: Method Blank
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 92055

| Analyte | MB | MB | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|------|------|------|---|----------|----------------|---------|
| | Result | Qualifier | | | | | | | |
| Chloride | ND | | 0.50 | 0.28 | mg/L | | | 11/22/12 08:55 | 1 |
| Sulfate | ND | | 2.0 | 0.35 | mg/L | | | 11/22/12 08:55 | 1 |

Lab Sample ID: LCS 480-92055/123

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 92055

| Analyte | MB | MB | Spike | LCS | LCS | Unit | D | %Rec | %Rec. |
|----------|--------|-----------|-------|--------|-----------|------|---|------|----------|
| | Result | Qualifier | Added | Result | Qualifier | | | | |
| Chloride | ND | | 20.0 | 20.7 | | mg/L | | 103 | 90 - 110 |
| Sulfate | ND | | 20.0 | 21.3 | | mg/L | | 107 | 90 - 110 |

TestAmerica Buffalo

QC Sample Results

Client: Olin Corporation

TestAmerica Job ID: 480-28600-1

Project/Site: Olin Chemical Wilmington MA Superfund S

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 480-92474/4

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 92474

| Analyte | MB | MB | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|------|------|------|---|----------|----------------|---------|
| | Result | Qualifier | | | | | | | |
| Chloride | ND | | 0.50 | 0.28 | mg/L | | | 11/23/12 16:32 | 1 |
| Sulfate | ND | | 2.0 | 0.35 | mg/L | | | 11/23/12 16:32 | 1 |

Lab Sample ID: LCS 480-92474/3

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 92474

| Analyte | Sample | Sample | Spike | LCS | LCS | Unit | D | %Rec. | Limits |
|----------|--------|-----------|-------|--------|-----------|------|---|-------|----------|
| | Result | Qualifier | Added | Result | Qualifier | | | | |
| Chloride | | | 20.0 | 20.7 | | mg/L | | 103 | 90 - 110 |
| Sulfate | | | 20.0 | 21.6 | | mg/L | | 108 | 90 - 110 |

Lab Sample ID: 480-28600-11 MS

Client Sample ID: OC-PZ-25

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 92474

| Analyte | Sample | Sample | Spike | MS | MS | Unit | D | %Rec. | Limits |
|---------|--------|-----------|-------|--------|-----------|------|---|-------|----------|
| | Result | Qualifier | Added | Result | Qualifier | | | | |
| Sulfate | 460 | | 250 | 723 | | mg/L | | 103 | 90 - 110 |

Lab Sample ID: 480-28600-11 MSD

Client Sample ID: OC-PZ-25

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 92474

| Analyte | Sample | Sample | Spike | MSD | MSD | Unit | D | %Rec. | Limits | RPD | Limit |
|---------|--------|-----------|-------|--------|-----------|------|---|-------|----------|-----|-------|
| | Result | Qualifier | Added | Result | Qualifier | | | | | | |
| Sulfate | 460 | | 250 | 742 | F | mg/L | | 111 | 90 - 110 | 3 | 20 |

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-91650/123

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 91650

| Analyte | MB | MB | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-------|--------|------|---|----------|----------------|---------|
| | Result | Qualifier | | | | | | | |
| Ammonia | ND | | 0.020 | 0.0090 | mg/L | | | 11/17/12 14:58 | 1 |

Lab Sample ID: MB 480-91650/147

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 91650

| Analyte | MB | MB | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-------|--------|------|---|----------|----------------|---------|
| | Result | Qualifier | | | | | | | |
| Ammonia | ND | | 0.020 | 0.0090 | mg/L | | | 11/17/12 15:21 | 1 |

Lab Sample ID: LCS 480-91650/124

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 91650

| Analyte | Sample | Sample | Spike | LCS | LCS | Unit | D | %Rec. | Limits |
|---------|--------|-----------|-------|--------|-----------|------|---|-------|----------|
| | Result | Qualifier | Added | Result | Qualifier | | | | |
| Ammonia | | | 1.00 | 0.984 | | mg/L | | 98 | 90 - 110 |

TestAmerica Buffalo

QC Sample Results

Client: Olin Corporation

TestAmerica Job ID: 480-28600-1

Project/Site: Olin Chemical Wilmington MA Superfund S

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 480-91650/148

Matrix: Water

Analysis Batch: 91650

| Analyte | Spike Added | LCS | LCS | Unit | D | %Rec | %Rec. |
|---------|-------------|--------|-----------|------|---|------|----------|
| | | Result | Qualifier | | | | |
| Ammonia | 1.00 | 0.979 | | mg/L | | 98 | 90 - 110 |

Lab Sample ID: MB 480-92063/171

Matrix: Water

Analysis Batch: 92063

| Analyte | MB | MB | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-------|--------|------|---|----------|----------------|---------|
| | Result | Qualifier | | | | | | | |
| Ammonia | ND | | 0.020 | 0.0090 | mg/L | | | 11/20/12 14:41 | 1 |

Lab Sample ID: MB 480-92063/195

Matrix: Water

Analysis Batch: 92063

| Analyte | MB | MB | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-------|--------|------|---|----------|----------------|---------|
| | Result | Qualifier | | | | | | | |
| Ammonia | ND | | 0.020 | 0.0090 | mg/L | | | 11/20/12 15:05 | 1 |

Lab Sample ID: MB 480-92063/51

Matrix: Water

Analysis Batch: 92063

| Analyte | MB | MB | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-------|--------|------|---|----------|----------------|---------|
| | Result | Qualifier | | | | | | | |
| Ammonia | ND | | 0.020 | 0.0090 | mg/L | | | 11/20/12 12:44 | 1 |

Lab Sample ID: MB 480-92063/75

Matrix: Water

Analysis Batch: 92063

| Analyte | MB | MB | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------|--------|-----------|-------|--------|------|---|----------|----------------|---------|
| | Result | Qualifier | | | | | | | |
| Ammonia | ND | | 0.020 | 0.0090 | mg/L | | | 11/20/12 13:07 | 1 |

Lab Sample ID: LCS 480-92063/172

Matrix: Water

Analysis Batch: 92063

| Analyte | Spike | Spike | Result | LCS | LCS | Unit | D | %Rec | %Rec. |
|---------|-------|--------|--------|-----|-----|------|---|------|----------|
| | Added | Result | | | | | | | |
| Ammonia | 1.00 | 0.988 | | | | mg/L | | 99 | 90 - 110 |

Lab Sample ID: LCS 480-92063/196

Matrix: Water

Analysis Batch: 92063

| Analyte | Spike | Spike | Result | LCS | LCS | Unit | D | %Rec | %Rec. |
|---------|-------|--------|--------|-----|-----|------|---|------|----------|
| | Added | Result | | | | | | | |
| Ammonia | 1.00 | 0.986 | | | | mg/L | | 99 | 90 - 110 |

Lab Sample ID: LCS 480-92063/52

Matrix: Water

Analysis Batch: 92063

| Analyte | Spike | Spike | Result | LCS | LCS | Unit | D | %Rec | %Rec. |
|---------|-------|--------|--------|-----|-----|------|---|------|----------|
| | Added | Result | | | | | | | |
| Ammonia | 1.00 | 0.978 | | | | mg/L | | 98 | 90 - 110 |

TestAmerica Buffalo

QC Sample Results

Client: Olin Corporation

TestAmerica Job ID: 480-28600-1

Project/Site: Olin Chemical Wilmington MA Superfund S

1

Lab Sample ID: LCS 480-92063/76

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

2

Matrix: Water

Analysis Batch: 92063

3

| Analyte | | Spike | LCS | LCS | Unit | D | %Rec | %Rec. |
|---------|--|-------|--------|-----------|------|----|----------|-------|
| | | Added | Result | Qualifier | | | | |
| Ammonia | | 1.00 | 0.983 | | mg/L | 98 | 90 - 110 | |

4

Lab Sample ID: 480-28600-2 MS

Client Sample ID: OC-GW-202D

Prep Type: Total/NA

5

Matrix: Water

Analysis Batch: 92063

6

| Analyte | Sample | Sample | Spike | MS | MS | Unit | D | %Rec | %Rec. |
|---------|--------|-----------|-------|--------|-----------|------|----|----------|-------|
| | Result | Qualifier | Added | Result | Qualifier | | | | |
| Ammonia | 140 | | 20.0 | 154 | 4 | mg/L | 85 | 54 - 150 | |

7

Lab Sample ID: 480-28600-2 MSD

Client Sample ID: OC-GW-202D

Prep Type: Total/NA

8

Matrix: Water

Analysis Batch: 92063

9

| Analyte | Sample | Sample | Spike | MSD | MSD | Unit | D | %Rec | %Rec. | RPD | RPD |
|---------|--------|-----------|-------|--------|-----------|------|----|----------|-------|-----|-----|
| | Result | Qualifier | Added | Result | Qualifier | | | | | | |
| Ammonia | 140 | | 20.0 | 154 | 4 | mg/L | 84 | 54 - 150 | | 0 | 20 |

10

Method: SM 2510B - Conductivity, Specific Conductance

11

Lab Sample ID: 480-28600-1 DU

Client Sample ID: OC-GW-202S

Prep Type: Total/NA

12

Matrix: Water

Analysis Batch: 92317

13

| Analyte | Sample | Sample | | DU | DU | Unit | D | RPD | RPD |
|----------------------|--------|-----------|--|--------|-----------|----------|---|-----|-----|
| | Result | Qualifier | | Result | Qualifier | | | | |
| Specific Conductance | 950 | | | 949 | | umhos/cm | | 0.2 | 20 |

14

Lab Sample ID: 480-28600-13 DU

Client Sample ID: OC-GW-76S

Prep Type: Total/NA

Matrix: Water

Analysis Batch: 92631

15

| Analyte | Sample | Sample | | DU | DU | Unit | D | RPD | RPD |
|----------------------|--------|-----------|--|--------|-----------|----------|---|-----|-----|
| | Result | Qualifier | | Result | Qualifier | | | | |
| Specific Conductance | 260 | | | 265 | | umhos/cm | | 1 | 20 |

16

QC Association Summary

Client: Olin Corporation

Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28600-1

Metals

Prep Batch: 91349

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 480-28600-1 | OC-GW-202S | Dissolved | Water | 3005A | 5 |
| 480-28600-2 | OC-GW-202D | Dissolved | Water | 3005A | 6 |
| 480-28600-2 MS | OC-GW-202D | Dissolved | Water | 3005A | 7 |
| 480-28600-2 MSD | OC-GW-202D | Dissolved | Water | 3005A | 8 |
| 480-28600-3 | OC-GW-25 | Dissolved | Water | 3005A | 9 |
| 480-28600-4 | OC-GW-78S | Dissolved | Water | 3005A | 10 |
| 480-28600-5 | OC-GW-79S | Dissolved | Water | 3005A | 11 |
| 480-28600-6 | OC-PZ-16RR | Dissolved | Water | 3005A | 12 |
| 480-28600-7 | OC-PZ-17RR | Dissolved | Water | 3005A | 13 |
| 480-28600-8 | OC-PZ-18R | Dissolved | Water | 3005A | 14 |
| 480-28600-9 | OC-DUP-202D | Dissolved | Water | 3005A | |
| 480-28600-10 | OC-PZ-24 | Dissolved | Water | 3005A | |
| 480-28600-11 | OC-PZ-25 | Dissolved | Water | 3005A | |
| 480-28600-12 | OC-GW-10S | Dissolved | Water | 3005A | |
| 480-28600-13 | OC-GW-76S | Dissolved | Water | 3005A | |
| 480-28600-14 | OC-GW-24 | Dissolved | Water | 3005A | |
| LCS 480-91347/4-B | Lab Control Sample | Dissolved | Water | 3005A | |
| LCSD 480-91347/31-B | Lab Control Sample Dup | Dissolved | Water | 3005A | |
| MB 480-91347/3-B | Method Blank | Dissolved | Water | 3005A | |

Analysis Batch: 92166

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 480-28600-1 | OC-GW-202S | Dissolved | Water | 6010 | 91349 |
| 480-28600-2 | OC-GW-202D | Dissolved | Water | 6010 | 91349 |
| 480-28600-2 MS | OC-GW-202D | Dissolved | Water | 6010 | 91349 |
| 480-28600-2 MSD | OC-GW-202D | Dissolved | Water | 6010 | 91349 |
| 480-28600-3 | OC-GW-25 | Dissolved | Water | 6010 | 91349 |
| 480-28600-4 | OC-GW-78S | Dissolved | Water | 6010 | 91349 |
| 480-28600-5 | OC-GW-79S | Dissolved | Water | 6010 | 91349 |
| 480-28600-6 | OC-PZ-16RR | Dissolved | Water | 6010 | 91349 |
| 480-28600-7 | OC-PZ-17RR | Dissolved | Water | 6010 | 91349 |
| 480-28600-8 | OC-PZ-18R | Dissolved | Water | 6010 | 91349 |
| 480-28600-9 | OC-DUP-202D | Dissolved | Water | 6010 | 91349 |
| 480-28600-10 | OC-PZ-24 | Dissolved | Water | 6010 | 91349 |
| 480-28600-11 | OC-PZ-25 | Dissolved | Water | 6010 | 91349 |
| 480-28600-12 | OC-GW-10S | Dissolved | Water | 6010 | 91349 |
| 480-28600-13 | OC-GW-76S | Dissolved | Water | 6010 | 91349 |
| 480-28600-14 | OC-GW-24 | Dissolved | Water | 6010 | 91349 |
| LCS 480-91347/4-B | Lab Control Sample | Dissolved | Water | 6010 | 91349 |
| LCSD 480-91347/31-B | Lab Control Sample Dup | Dissolved | Water | 6010 | 91349 |
| MB 480-91347/3-B | Method Blank | Dissolved | Water | 6010 | 91349 |

General Chemistry

Analysis Batch: 91402

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|--------|------------|
| 480-28600-1 | OC-GW-202S | Total/NA | Water | 300.0 | |
| 480-28600-3 | OC-GW-25 | Total/NA | Water | 300.0 | |
| 480-28600-4 | OC-GW-78S | Total/NA | Water | 300.0 | |
| 480-28600-7 | OC-PZ-17RR | Total/NA | Water | 300.0 | |

TestAmerica Buffalo

QC Association Summary

Client: Olin Corporation

Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28600-1

General Chemistry (Continued)

Analysis Batch: 91402 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 480-28600-8 | OC-PZ-18R | Total/NA | Water | 300.0 | |
| LCS 480-91402/99 | Lab Control Sample | Total/NA | Water | 300.0 | |
| MB 480-91402/100 | Method Blank | Total/NA | Water | 300.0 | |

Analysis Batch: 91405

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|--------|--------|------------|
| 480-28600-10 | OC-PZ-24 | Total/NA | Water | 300.0 | |
| 480-28600-11 | OC-PZ-25 | Total/NA | Water | 300.0 | |
| 480-28600-12 | OC-GW-10S | Total/NA | Water | 300.0 | |
| 480-28600-13 | OC-GW-76S | Total/NA | Water | 300.0 | |
| 480-28600-14 | OC-GW-24 | Total/NA | Water | 300.0 | |
| LCS 480-91405/123 | Lab Control Sample | Total/NA | Water | 300.0 | |
| MB 480-91405/124 | Method Blank | Total/NA | Water | 300.0 | |

Analysis Batch: 91650

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|--------|--------|------------|
| 480-28600-12 | OC-GW-10S | Total/NA | Water | 350.1 | |
| LCS 480-91650/124 | Lab Control Sample | Total/NA | Water | 350.1 | |
| LCS 480-91650/148 | Lab Control Sample | Total/NA | Water | 350.1 | |
| MB 480-91650/123 | Method Blank | Total/NA | Water | 350.1 | |
| MB 480-91650/147 | Method Blank | Total/NA | Water | 350.1 | |

Analysis Batch: 91987

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------|--------------------|-----------|--------|--------|------------|
| 480-28600-2 | OC-GW-202D | Total/NA | Water | 300.0 | |
| 480-28600-2 MS | OC-GW-202D | Total/NA | Water | 300.0 | |
| 480-28600-2 MSD | OC-GW-202D | Total/NA | Water | 300.0 | |
| 480-28600-5 | OC-GW-79S | Total/NA | Water | 300.0 | |
| 480-28600-6 | OC-PZ-16RR | Total/NA | Water | 300.0 | |
| LCS 480-91987/3 | Lab Control Sample | Total/NA | Water | 300.0 | |
| MB 480-91987/4 | Method Blank | Total/NA | Water | 300.0 | |

Analysis Batch: 92053

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 480-28600-1 | OC-GW-202S | Total/NA | Water | 300.0 | |
| 480-28600-3 | OC-GW-25 | Total/NA | Water | 300.0 | |
| 480-28600-3 MS | OC-GW-25 | Total/NA | Water | 300.0 | |
| 480-28600-3 MSD | OC-GW-25 | Total/NA | Water | 300.0 | |
| LCS 480-92053/99 | Lab Control Sample | Total/NA | Water | 300.0 | |
| MB 480-92053/100 | Method Blank | Total/NA | Water | 300.0 | |

Analysis Batch: 92055

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|--------|--------|------------|
| 480-28600-4 | OC-GW-78S | Total/NA | Water | 300.0 | |
| 480-28600-7 | OC-PZ-17RR | Total/NA | Water | 300.0 | |
| 480-28600-8 | OC-PZ-18R | Total/NA | Water | 300.0 | |
| LCS 480-92055/123 | Lab Control Sample | Total/NA | Water | 300.0 | |
| MB 480-92055/124 | Method Blank | Total/NA | Water | 300.0 | |

QC Association Summary

Client: Olin Corporation

Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28600-1

General Chemistry (Continued)

Analysis Batch: 92063

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|--------|--------|------------|
| 480-28600-1 | OC-GW-202S | Total/NA | Water | 350.1 | 5 |
| 480-28600-2 | OC-GW-202D | Total/NA | Water | 350.1 | 6 |
| 480-28600-2 MS | OC-GW-202D | Total/NA | Water | 350.1 | 7 |
| 480-28600-2 MSD | OC-GW-202D | Total/NA | Water | 350.1 | 8 |
| 480-28600-3 | OC-GW-25 | Total/NA | Water | 350.1 | 9 |
| 480-28600-4 | OC-GW-78S | Total/NA | Water | 350.1 | 10 |
| 480-28600-5 | OC-GW-79S | Total/NA | Water | 350.1 | 11 |
| 480-28600-6 | OC-PZ-16RR | Total/NA | Water | 350.1 | 12 |
| 480-28600-7 | OC-PZ-17RR | Total/NA | Water | 350.1 | 13 |
| 480-28600-8 | OC-PZ-18R | Total/NA | Water | 350.1 | 14 |
| 480-28600-9 | OC-DUP-202D | Total/NA | Water | 350.1 | |
| 480-28600-10 | OC-PZ-24 | Total/NA | Water | 350.1 | |
| 480-28600-11 | OC-PZ-25 | Total/NA | Water | 350.1 | |
| 480-28600-13 | OC-GW-76S | Total/NA | Water | 350.1 | |
| 480-28600-14 | OC-GW-24 | Total/NA | Water | 350.1 | |
| LCS 480-92063/172 | Lab Control Sample | Total/NA | Water | 350.1 | |
| LCS 480-92063/196 | Lab Control Sample | Total/NA | Water | 350.1 | |
| LCS 480-92063/52 | Lab Control Sample | Total/NA | Water | 350.1 | |
| LCS 480-92063/76 | Lab Control Sample | Total/NA | Water | 350.1 | |
| MB 480-92063/171 | Method Blank | Total/NA | Water | 350.1 | |
| MB 480-92063/195 | Method Blank | Total/NA | Water | 350.1 | |
| MB 480-92063/51 | Method Blank | Total/NA | Water | 350.1 | |
| MB 480-92063/75 | Method Blank | Total/NA | Water | 350.1 | |

Analysis Batch: 92317

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|----------|------------|
| 480-28600-1 | OC-GW-202S | Total/NA | Water | SM 2510B | |
| 480-28600-1 DU | OC-GW-202S | Total/NA | Water | SM 2510B | |
| 480-28600-2 | OC-GW-202D | Total/NA | Water | SM 2510B | |
| 480-28600-3 | OC-GW-25 | Total/NA | Water | SM 2510B | |
| 480-28600-4 | OC-GW-78S | Total/NA | Water | SM 2510B | |
| 480-28600-5 | OC-GW-79S | Total/NA | Water | SM 2510B | |
| 480-28600-6 | OC-PZ-16RR | Total/NA | Water | SM 2510B | |
| 480-28600-7 | OC-PZ-17RR | Total/NA | Water | SM 2510B | |
| 480-28600-8 | OC-PZ-18R | Total/NA | Water | SM 2510B | |
| 480-28600-9 | OC-DUP-202D | Total/NA | Water | SM 2510B | |
| 480-28600-10 | OC-PZ-24 | Total/NA | Water | SM 2510B | |
| 480-28600-11 | OC-PZ-25 | Total/NA | Water | SM 2510B | |
| LCS 480-92317/23 | Lab Control Sample | Total/NA | Water | SM 2510B | |

Analysis Batch: 92474

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 480-28600-9 | OC-DUP-202D | Total/NA | Water | 300.0 | |
| 480-28600-10 | OC-PZ-24 | Total/NA | Water | 300.0 | |
| 480-28600-11 | OC-PZ-25 | Total/NA | Water | 300.0 | |
| 480-28600-11 MS | OC-PZ-25 | Total/NA | Water | 300.0 | |
| 480-28600-11 MSD | OC-PZ-25 | Total/NA | Water | 300.0 | |
| LCS 480-92474/3 | Lab Control Sample | Total/NA | Water | 300.0 | |
| MB 480-92474/4 | Method Blank | Total/NA | Water | 300.0 | |

QC Association Summary

Client: Olin Corporation

Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28600-1

General Chemistry (Continued)

Analysis Batch: 92631

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|----------|------------|
| 480-28600-12 | OC-GW-10S | Total/NA | Water | SM 2510B | |
| 480-28600-13 | OC-GW-76S | Total/NA | Water | SM 2510B | |
| 480-28600-13 DU | OC-GW-76S | Total/NA | Water | SM 2510B | |
| 480-28600-14 | OC-GW-24 | Total/NA | Water | SM 2510B | |
| LCS 480-92631/23 | Lab Control Sample | Total/NA | Water | SM 2510B | |

Lab Chronicle

Client: Olin Corporation

Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28600-1

Client Sample ID: OC-GW-202S

Lab Sample ID: 480-28600-1

Matrix: Water

Date Collected: 11/13/12 11:10

Date Received: 11/15/12 07:30

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Dissolved | Prep | 3005A | | | 50 mL | 50 mL | 91349 | 11/17/12 09:00 | SS | TAL BUF |
| Dissolved | Analysis | 6010 | | 1 | | | 92166 | 11/20/12 19:23 | LH | TAL BUF |
| Total/NA | Analysis | 300.0 | | 1 | 1 mL | 1.0 mL | 91402 | 11/20/12 07:30 | KAC | TAL BUF |
| Total/NA | Analysis | 300.0 | | 5 | 1 mL | 1.0 mL | 92053 | 11/22/12 07:44 | KC | TAL BUF |
| Total/NA | Analysis | 350.1 | | 40 | 5 mL | 5 mL | 92063 | 11/20/12 14:57 | KS | TAL BUF |
| Total/NA | Analysis | SM 2510B | | 1 | | | 92317 | 11/21/12 16:00 | LK | TAL BUF |

Client Sample ID: OC-GW-202D

Lab Sample ID: 480-28600-2

Matrix: Water

Date Collected: 11/13/12 12:00

Date Received: 11/15/12 07:30

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Dissolved | Prep | 3005A | | | 50 mL | 50 mL | 91349 | 11/17/12 09:00 | SS | TAL BUF |
| Dissolved | Analysis | 6010 | | 1 | | | 92166 | 11/20/12 19:29 | LH | TAL BUF |
| Total/NA | Analysis | 300.0 | | 20 | 1 mL | 1.0 mL | 91987 | 11/21/12 14:41 | KC | TAL BUF |
| Total/NA | Analysis | 350.1 | | 100 | 5 mL | 5 mL | 92063 | 11/20/12 14:58 | KS | TAL BUF |
| Total/NA | Analysis | SM 2510B | | 1 | | | 92317 | 11/21/12 16:00 | LK | TAL BUF |

Client Sample ID: OC-GW-25

Lab Sample ID: 480-28600-3

Matrix: Water

Date Collected: 11/14/12 14:25

Date Received: 11/15/12 07:30

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Dissolved | Prep | 3005A | | | 50 mL | 50 mL | 91349 | 11/17/12 09:00 | SS | TAL BUF |
| Dissolved | Analysis | 6010 | | 1 | | | 92166 | 11/20/12 19:40 | LH | TAL BUF |
| Total/NA | Analysis | 300.0 | | 1 | 1 mL | 1.0 mL | 91402 | 11/20/12 08:11 | KAC | TAL BUF |
| Total/NA | Analysis | 300.0 | | 2 | 1 mL | 1.0 mL | 92053 | 11/22/12 07:54 | KC | TAL BUF |
| Total/NA | Analysis | 350.1 | | 20 | 5 mL | 5 mL | 92063 | 11/20/12 13:13 | KS | TAL BUF |
| Total/NA | Analysis | SM 2510B | | 1 | | | 92317 | 11/21/12 16:00 | LK | TAL BUF |

Client Sample ID: OC-GW-78S

Lab Sample ID: 480-28600-4

Matrix: Water

Date Collected: 11/13/12 15:00

Date Received: 11/15/12 07:30

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Dissolved | Prep | 3005A | | | 50 mL | 50 mL | 91349 | 11/17/12 09:00 | SS | TAL BUF |
| Dissolved | Analysis | 6010 | | 1 | | | 92166 | 11/20/12 19:42 | LH | TAL BUF |
| Total/NA | Analysis | 300.0 | | 1 | 1 mL | 1.0 mL | 91402 | 11/20/12 08:21 | KAC | TAL BUF |
| Total/NA | Analysis | 300.0 | | 10 | 1 mL | 1.0 mL | 92055 | 11/22/12 09:05 | KC | TAL BUF |
| Total/NA | Analysis | 350.1 | | 50 | 5 mL | 5 mL | 92063 | 11/20/12 15:01 | KS | TAL BUF |
| Total/NA | Analysis | SM 2510B | | 1 | | | 92317 | 11/21/12 16:00 | LK | TAL BUF |

TestAmerica Buffalo

Lab Chronicle

Client: Olin Corporation
 Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28600-1

Client Sample ID: OC-GW-79S

Date Collected: 11/14/12 08:40
 Date Received: 11/15/12 07:30

Lab Sample ID: 480-28600-5

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Dissolved | Prep | 3005A | | | 50 mL | 50 mL | 91349 | 11/17/12 09:00 | SS | TAL BUF |
| Dissolved | Analysis | 6010 | | 1 | | | 92166 | 11/20/12 19:44 | LH | TAL BUF |
| Total/NA | Analysis | 300.0 | | 20 | 1 mL | 1.0 mL | 91987 | 11/21/12 15:11 | KC | TAL BUF |
| Total/NA | Analysis | 350.1 | | 100 | 5 mL | 5 mL | 92063 | 11/20/12 15:02 | KS | TAL BUF |
| Total/NA | Analysis | SM 2510B | | 1 | | | 92317 | 11/21/12 16:00 | LK | TAL BUF |

Client Sample ID: OC-PZ-16RR

Date Collected: 11/14/12 09:05
 Date Received: 11/15/12 07:30

Lab Sample ID: 480-28600-6

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Dissolved | Prep | 3005A | | | 50 mL | 50 mL | 91349 | 11/17/12 09:00 | SS | TAL BUF |
| Dissolved | Analysis | 6010 | | 1 | | | 92166 | 11/20/12 19:46 | LH | TAL BUF |
| Total/NA | Analysis | 300.0 | | 10 | 1 mL | 1.0 mL | 91987 | 11/21/12 15:22 | KC | TAL BUF |
| Total/NA | Analysis | 350.1 | | 100 | 5 mL | 5 mL | 92063 | 11/20/12 15:07 | KS | TAL BUF |
| Total/NA | Analysis | SM 2510B | | 1 | | | 92317 | 11/21/12 16:00 | LK | TAL BUF |

Client Sample ID: OC-PZ-17RR

Date Collected: 11/14/12 10:10
 Date Received: 11/15/12 07:30

Lab Sample ID: 480-28600-7

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Dissolved | Prep | 3005A | | | 50 mL | 50 mL | 91349 | 11/17/12 09:00 | SS | TAL BUF |
| Dissolved | Analysis | 6010 | | 1 | | | 92166 | 11/20/12 19:48 | LH | TAL BUF |
| Total/NA | Analysis | 300.0 | | 1 | 1 mL | 1.0 mL | 91402 | 11/20/12 08:51 | KAC | TAL BUF |
| Total/NA | Analysis | 300.0 | | 5 | 1 mL | 1.0 mL | 92055 | 11/22/12 09:15 | KC | TAL BUF |
| Total/NA | Analysis | 350.1 | | 40 | 5 mL | 5 mL | 92063 | 11/20/12 15:08 | KS | TAL BUF |
| Total/NA | Analysis | SM 2510B | | 1 | | | 92317 | 11/21/12 16:00 | LK | TAL BUF |

Client Sample ID: OC-PZ-18R

Date Collected: 11/14/12 11:20
 Date Received: 11/15/12 07:30

Lab Sample ID: 480-28600-8

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Dissolved | Prep | 3005A | | | 50 mL | 50 mL | 91349 | 11/17/12 09:00 | SS | TAL BUF |
| Dissolved | Analysis | 6010 | | 1 | | | 92166 | 11/20/12 19:55 | LH | TAL BUF |
| Total/NA | Analysis | 300.0 | | 1 | 1 mL | 1.0 mL | 91402 | 11/20/12 09:01 | KAC | TAL BUF |
| Total/NA | Analysis | 300.0 | | 2 | 1 mL | 1.0 mL | 92055 | 11/22/12 09:25 | KC | TAL BUF |
| Total/NA | Analysis | 350.1 | | 20 | 5 mL | 5 mL | 92063 | 11/20/12 13:20 | KS | TAL BUF |
| Total/NA | Analysis | SM 2510B | | 1 | | | 92317 | 11/21/12 16:00 | LK | TAL BUF |

TestAmerica Buffalo

Method Summary

Client: Olin Corporation

TestAmerica Job ID: 480-28600-1

Project/Site: Olin Chemical Wilmington MA Superfund S

| Method | Method Description | Protocol | Laboratory |
|----------|------------------------------------|----------|------------|
| 6010 | Metals (ICP) | SW846 | TAL BUF |
| 300.0 | Anions, Ion Chromatography | MCAWW | TAL BUF |
| 350.1 | Nitrogen, Ammonia | MCAWW | TAL BUF |
| SM 2510B | Conductivity, Specific Conductance | SM | TAL BUF |

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

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Sample Summary

Client: Olin Corporation

Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28600-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---------------|------------------|--------|----------------|----------------|
| 480-28600-1 | OC-GW-202S | Water | 11/13/12 11:10 | 11/15/12 07:30 |
| 480-28600-2 | OC-GW-202D | Water | 11/13/12 12:00 | 11/15/12 07:30 |
| 480-28600-3 | OC-GW-25 | Water | 11/14/12 14:25 | 11/15/12 07:30 |
| 480-28600-4 | OC-GW-78S | Water | 11/13/12 15:00 | 11/15/12 07:30 |
| 480-28600-5 | OC-GW-79S | Water | 11/14/12 08:40 | 11/15/12 07:30 |
| 480-28600-6 | OC-PZ-16RR | Water | 11/14/12 09:05 | 11/15/12 07:30 |
| 480-28600-7 | OC-PZ-17RR | Water | 11/14/12 10:10 | 11/15/12 07:30 |
| 480-28600-8 | OC-PZ-18R | Water | 11/14/12 11:20 | 11/15/12 07:30 |
| 480-28600-9 | OC-DUP-202D | Water | 11/13/12 12:00 | 11/15/12 07:30 |
| 480-28600-10 | OC-PZ-24 | Water | 11/13/12 13:55 | 11/15/12 07:30 |
| 480-28600-11 | OC-PZ-25 | Water | 11/13/12 13:05 | 11/15/12 07:30 |
| 480-28600-12 | OC-GW-10S | Water | 11/14/12 12:05 | 11/15/12 07:30 |
| 480-28600-13 | OC-GW-76S | Water | 11/14/12 13:00 | 11/15/12 07:30 |
| 480-28600-14 | OC-GW-24 | Water | 11/14/12 13:40 | 11/15/12 07:30 |

Login Sample Receipt Checklist

Client: Olin Corporation

Job Number: 480-28600-1

Login Number: 28600

List Source: TestAmerica Buffalo

List Number: 1

Creator: Robitaille, Zach L

| Question | Answer | Comment |
|--|--------|-----------|
| Radioactivity either was not measured or, if measured, is at or below background | True | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | N/A | |
| If necessary, staff have been informed of any short hold time or quick TAT needs | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Sampling Company provided. | True | OLIN CORP |
| Samples received within 48 hours of sampling. | True | |
| Samples requiring field filtration have been filtered in the field. | N/A | |
| Chlorine Residual checked. | N/A | |

Chain of Custody Record

| | | | | |
|---|---|-----------------------------|---|--|
| Client Information | | Sample #: Char Mason | Lab Pk: Mason, Becky C | Case File No(s): 360-167-334-088-1 |
| Client Contact: | Mr. Brian Gulichard | Phone: 339-927-3796 | E-Mail: becky.mason@testamericainc.com | Page 1 of 2 |
| Company: | Olin Corporation | Due Date Requested: | | |
| Address: | 51 Earles street City: Wilmington State: Zip: MA, 01687 | TAT Requested (days): | | |
| Phone: | | PO#: | REW0013 | |
| Email: | begulichard@olin.com | VO#: | | |
| Project Name: | Olin Chemical Superfund Site | Project #: | 36001816 | |
| Site #: | | SSON#: | | |
| Analysis Requested | | | | |
| Total Number of Containers: _____ | | | | |
| Preservation Codes: | | | | |
| A - HCl M - Hexane B - NaOH N - None C - Zn Acetate O - NaNO2 D - Nitric Acid P - Na2CO3 E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Ammonium S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Iodine U - Acetone J - Di Water V - MCA K - EDTA W - pH 4.5 L - EDA Z - Other (specify) Other: | | | | |
| Special Instructions/Note: | | | | |
| 2510B, 3000A, 28D 0810B - (MD) Custom Pick List LACCH_187_06_1_B - Ammonium | | | | |
| S D N | | | | |
| Sample Identification | | | | |
| | Sample Date | Sample Time | Sample Type (C-Comm, G-Grab) | Matrix (Vapour, Ground, Osmotic, Infrared, etc.) |
| GC-GW-202S | 1/13/12 | 11:00 | C | Water |
| GC-GW-202D | 1/13/12 | 12:00 | G | Water |
| GC-GW-25 | 1/14/12 | 14:25 | G | Water |
| GC-GW-78S | 1/13/12 | 15:00 | G | Water |
| GC-GW-79S | 1/14/12 | 09:10 | G | Water |
| GC-PZ-16RR | 1/14/12 | 09:05 | G | Water |
| GC-PZ-17RR | 1/14/12 | 10:15 | G | Water |
| GC-PZ-18R | 1/14/12 | 11:20 | G | Water |
| MS-need ID of MS | 2020 | 12:00 | G | Water |
| MSD-need ID of MSD | 2020 | 12:00 | G | Water |
| CC-DUP | 1/13/12 | 12:00 | G | Water |
| CC-DUP | 1/13/12 | 12:00 | G | Water |
| Possible Hazard Identification | | | | |
| <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological | | | | |
| Deliverable Requests: I, II, III, IV, Other (specify) | | | | |
| Empty Kit Relinquished by: | | | | |
| Relinquished by: | Char Mason | Date/Time: | 1/14/12 15:00 | Received by: Amec |
| Relinquished by: | M.C. | Date/Time: | 1/15/12 15:30 | Received by: Amec |
| Relinquished by: | | Date/Time: | | Received by: |
| Sample Disposal / A fee may be assessed if samples are retained longer than 1 month) | | | | |
| <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab | | | | |
| Special Instructions/QC Requirements: | | | | |
| Method of Shipment: | | | | |
| Time: | | Date: | | |
| Date/Time: | 1/14/12 15:00 | Received by: | Amec | Comments: 1500 |
| Date/Time: | 1/15/12 07:30 | Received by: | Amec | Comments: 7:30 |
| Archive For Months: | | | | |
| Code Temperature(s) °C and Other Remarks: 3.6°C 2.8°C 4.3 | | | | |

Custody Seal Intact: Custody Seal No.:

△ Yes △ No

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Chain of Custody Record

| Client Information | | Sampler: <i>Chris Mazzaferri</i> | Lab P.M.: <i>Mason, Becky C</i> | Carrier Tracking No.: <i>360-16733-40688 2</i> | COC No.: <i>360-16733-40688 2</i> | |
|---|------------------------------|----------------------------------|---------------------------------|--|---------------------------------------|--|
| Client Contact: | Mr. Brian Guichard | Phone: | <i>339-927-3796</i> | E-Mail: | <i>becky.mason@testamericainc.com</i> | |
| Company: | Olin Corporation | Job #: | | | | |
| Address: | 51 Eames street | Due Date Requested: | | | | |
| City: | Wilmington | TAT Requested (days): | | | | |
| State, Zip: | DE, 19887 | PO #: | <i>REV/RD0013</i> | | | |
| Phone: | | WO #: | | | | |
| Email: | <i>bguichard@olin.com</i> | Project #: | <i>36001816</i> | | | |
| Project Name: | Olin Chemical Superfund Site | SSOW#: | | | | |
| Site: | | Sample Identification | Sample Date | Sample Time | Sample Type (C=comp, G=grab) | Matrix (Inorganic, Organic, Organometallic, Aqueous) |
| | | | | | | |
| OC-P-24 | | <i>11/13/12</i> | <i>13:55</i> | <i>G</i> | Water | X X X X X X |
| OC-P-25 | | <i>11/13/12</i> | <i>13:55</i> | <i>G</i> | Water | X X X X X X |
| OC-GW-105 | | <i>11/14/12</i> | <i>12:05</i> | <i>G</i> | Water | X X X X X X |
| OC-GW-765 | | <i>11/14/12</i> | <i>13:00</i> | <i>G</i> | <i>Water</i> | X X X X X X |
| OC-GW-24 | | <i>11/14/12</i> | <i>13:40</i> | <i>G</i> | Water | X X X X X X |
| Possible Hazard Identification | | | | | | |
| <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological | | | | | | |
| Deliverable Requested: I, II, III, IV, Other (specify) | | | | | | |
| Empty Kit Relinquished by: | | | | | | |
| Relinquished by: <i>Chris Mazzaferri</i> | | Date/Time: <i>11/14/12</i> | Company: <i>Amenco</i> | Date/Time: <i>11/14/12</i> | Company: <i>TestAmerica</i> | Time: <i>1500</i> |
| Relinquished by: <i>John C. Guichard</i> | | Date/Time: <i>11/14/12</i> | Company: <i>TestAmerica</i> | Date/Time: <i>11/15/12</i> | Company: <i>TestAmerica</i> | Time: <i>1530</i> |
| Relinquished by: <i>John C. Guichard</i> | | Date/Time: <i>11/14/12</i> | Company: <i>TestAmerica</i> | Date/Time: <i>11/15/12</i> | Company: <i>TestAmerica</i> | Time: <i>1530</i> |
| Custody Seals intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Custody Seal No.: <i>44-3</i> | | | | |
| Cooler Temperature(s) °C and Other Remarks: <i>36°C, 28°C 44-3</i> | | | | | | |
| Special Instructions/Note: | | | | | | |
| Order Number of Container: | | | | | | |
| Preservation Codes: | | | | | | |
| A - HCl M - Hexane B - NaOH N - None C - Zn Acetate D - NaB02 E - Na2CO3 F - NaHSO4 G - MeOH H - Acetic Acid I - TSP-Dodecylbenzene Sulfonate J - Di Water K - EDTA L - EDA Z - other (specify) | | | | | | |
| Other: | | | | | | |
| Special Disposal / A fee may be assessed if samples are retained longer than 1 month) | | | | | | |
| <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months | | | | | | |
| Special Instructions/QC Requirements: | | | | | | |